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# Care of Plants on Arrival

It is better to ship plants from here while they are still dormant. If you live in the colder parts of the country and we held the plants here until you could plant them, they would be too far advanced to stand shipping, so we will ship the plants early. You should, if it may be several days or weeks before you are ready to set the plants out, open them and see that the moss around the roots is damp but not wet. They should then be stored in as cold a place as possible where they will not freeze. If they are to be kept a month or more, they should be put in cold storage or else be heeled-in in moist sand in a cool place. Never soak the roots and keep them wet; it is much better to keep them only moist.



No. 1—First Operation—Making the Hole.



No. 2—Second Operation—Placing the Plant.



No. 3—Third Operation—Firming the Soil.



No. 4—Fourth Operation—Mulching with Loose Dirt.

## SOIL PREPARATION

After the land has been plowed, disked and harrowed, as for any other crop, the rows should be marked out. This can be done in any one of a number of different ways. All that matters is that the rows are straight and a uniform distance apart. The importance of this is not for looks but to facilitate getting through with the various tools after the vines have grown and are using much of the space.

## CARE OF PLANTS BEFORE PLANTING

Be sure that the plants are kept moist from the time they arrive until they are in the ground. Never drop plants along the row ahead of the planters to lie in the sun and wind. A very few minutes under these conditions will ruin them. Keep boxes of plants in the field covered with wet burlap or other material so that you know the roots cannot dry out. As the plants are being set, carry them in a covered bucket or box, taking one plant out at a time as it is planted.

## PROPER PLANTING

### No. 1

Picture shows the making of a hole, which is easily done by simply stepping on the shovel and drawing it to you a little, leaving one side of the hole straight up and down and smooth.

### No. 2

Picture shows the placing of the plant against the straight side of this hole and spreading the roots out fan shape but all pointing down and being careful that the crown of the plant is just about level with the ground's surface.

### No. 3

The shovel is removed and the dirt pushed back into the hole and stepped on to make it very firm around the roots. Care should be used to make the dirt firm but not to step down on the crown of the plant and injure it.

### No. 4

Last, you pull a little loose dirt around the plant to cover this tramped earth and to keep it from getting hard.

These instructions are assuming that the ground is moist and in shape for planting. If the ground is not thoroughly moist or if it is late in the season and the plants have started to grow, then some water should be given each plant before pulling the loose dirt up around it.

If the land is in good shape and has been previously marked out, two men can usually plant at least an acre a day and do it well, using the methods described above. The finest possible condition to have your land in for planting is to have it plowed, smoothed and then rained on to settle it before planting.

Do not put fertilizer in the holes with your plants. Be sure to press the dirt firmly around the roots. Water if ground is not wet.

# KNOTT'S BERRY FARM, Buena Park, California



# Cultural Directions for Knott's Berry Plants

## Time to Plant

In California the best time to plant all varieties of berries is after January 1 and before the end of March. This also applies to rhubarb, asparagus and artichokes. Under very favorable conditions later planting is sometimes successful.

Strawberries may also be planted in the fall if you have plants available. **WE DIG NO PLANTS BEFORE JANUARY FIRST** and we believe this is the practice of most small fruit nurseries. In colder sections plant as early as the land can be worked.

## Moisture Requirements

**IRRIGATION**—(For sections where irrigation is necessary.) No set rules can be laid down which will hold good in all cases because of the difference in climate and soil. We irrigate about once each week during the picking season and about once in three or four weeks during the balance of the year, except in the rainy season. Some soils will require water more often than this, especially for strawberries. Give them a thorough irrigation when you do irrigate. The one main consideration is to keep your plants growing thrifty through the entire summer. We have to get a large vine growth in order to be able to get a heavy crop, so if it takes more water to get a vigorous vine growth, use it. Water well at the end of the picking season and again immediately after pruning, which should be done just as soon as the crop is picked. This gives the vines a good thrifty start at a time in the summer when they will grow very fast. Insufficient amount of water given plants is the cause of more short crops of berries than any other cause. Remember that the roots of your berries are longer than the canes above the ground and if you irrigate in a little basin around the plant and leave the surrounding ground dry, the roots will be restricted to the little area of wet dirt in the basin. When irrigating, be sure the ground will be thoroughly soaked several feet each side of your plants. Then watch them grow!

## Constructing the Trellis

**TRELLISING**—It pays to use posts made from the kinds of wood which are known to last well in the ground. In California, redwood is the best material for posts. Do not use pine, for many of the posts will rot off in one year and will cause you no end of trouble later. Most lumber dealers either have in stock, or can order, 6'2"x2" split redwood grape stakes, which make the best and most economical posts for berry trellises. Split stakes or posts are better than sawed posts because they do not have knots. They are already sharpened and can be driven in soft ground.

Use heavy end posts and stretch the wires the length of the rows. The end posts should be anchored or well braced, for all of the pull comes on them and the wires should be tight. It is better to tie your wire around the end posts than to staple it. The lower wire should be on one side of the post and the upper wire on the other. This makes a cheap, durable trellis which is easy to take down.

We space the redwood posts about 30 feet apart with a lighter stake (1"x1" will do) between each post to support the wires and keep them properly spread. This prevents the wires from sagging or being drawn together when the canes are wound up on them. We use No. 13 galvanized wire on top, and No. 14 below.

## Boysenberries

*(These directions are the same for Loganberries, Youngberries, etc.)*

The best time to set out the plants is January, February and March in California, and as early in the spring as the land can be worked in the colder sections.

With irrigation the rows may be spaced six feet apart and the plants set six feet apart in the rows. Without irrigation we believe that eight-foot spacing each way will be better. Do not crowd them, for they make big vines. This is a very exceptional berry, for even though it produces an enormous crop, still the berries are very large, and by very large we mean BIG; bigger, we are sure, than anything you have grown or

seen before. But in order to get both very large berries and a big crop there must be something put in the ground to produce them, so keep them well fertilized and be surprised and happy with the results.

After your plants have started to grow well, if manure is available, it will be a great help if you will scatter 10 or 15 pounds of chicken manure or 20 or 25 pounds of barnyard manure per plant between the rows and work it into the ground. If manure is not easily available, about one pound per plant of fishmeal, bloodmeal, tankage, or mixed fertilizer scattered or drilled in, about a foot from the plants after they have started to grow, will make them grow big, strong vines the first year. You should strive to get a heavy vine the first summer in order to support a maximum crop the next season.

Then in early spring another application of fertilizer about as suggested above should be given. This is for the fruit.

If to be grown in an irrigated country they should be well watered during spring and summer while the crop is developing and being harvested.

The first season the vines can be left on the ground, and as the canes grow, they can be pushed back in line with the rows so that cultivation can continue. In the colder section of the midwest and east some growers report they have found it beneficial to mulch the canes through the winter. It is important to put a little of the mulching material under the vines, to keep them from getting imbedded in the mud when freezing and thawing starts in the spring, as well as covering them. Corn stalks, straw or leaves seem to make satisfactory mulch material.

Some growers have reported their plants uninjured after temperatures as low as 20 degrees below zero, even though they were not mulched.

In the spring as soon as the leaf buds begin to open, the vines should be put on a trellis. We use two wires, one about two feet from the ground, the other four feet. The vines are wrapped around these wires in loose spirals (see picture below).

When the crop is all picked, the old canes that have borne fruit should be cut off the trellis and back to the ground and burned.

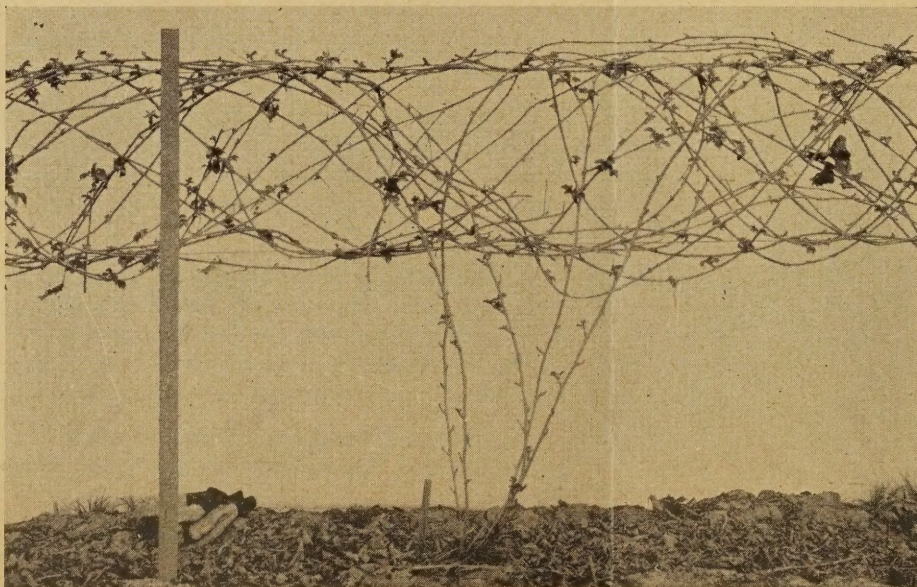
By that time the new canes, which are your fruit wood for the next season, will be several feet long, and these new canes can either be trellised up immediately or be allowed to grow on the ground until the following spring, and are then put up on the trellis at the end of the dormant season as before.

## PRUNING IN GENERAL

—All varieties of berries except Himalaya blackberries bear next year on the wood that grew this year, so the first season there is little or no pruning needed. You simply set your plants in the spring and the wood which grows that summer will bear your crop next summer.

## A GOOD TRELLIS

This bush happened to have only five canes, all of which were long ones. If your bushes have more strong canes it is advantageous to leave more canes per hill.





Then when growth starts each spring there will be new canes start which will grow while your crop is being picked. When you are through picking you **SAVE** these **NEW** canes and cut out all the old ones from which you have just picked your crop.

**TEXAS WONDER, MACATAWA, BLACK-BERRIES** and **BLACK RASPBERRIES** will sprawl on the ground the first year (if not tied up to trellis) but will grow in bushes after first year. Just before you start picking these varieties top the new wood (Texas Wonder about 3 ft. and Macatawa about 4 ft. high). These main canes will branch out and form the bushes for the following season. The laterals forming this bushy top are then headed back about half during the dormant season to form compact bushes.

**BLACK RASPBERRIES** are pruned like bush type blackberries as described above.

**RED RASPBERRIES**—When Red Raspberry plants come to you from the nursery there is usually a foot or more of cane with each plant which if left when the plants are set out will produce fruit the first spring. Immediately after the plants are set out these canes should be cut back to only a few inches above ground to force all the strength into new canes for the next year. On good land and with good care they often grow 6 or 8 feet high the first season. One light wire on each side of the row will usually provide support enough.

In late winter shortly before new growth starts in spring these canes should be cut back at least one-third of their length.

We have been successful with the practice of cutting red raspberries back to within 18 inches of the ground in February. Plants pruned in this manner have produced larger fruit in greater quantity for us.

Give raspberries plenty of water and fertilizer. They require even more than other kinds of berries.

## Strawberry Culture

There are two general ways of planting strawberries in California.

One is to set the plants about one foot apart in either single or double rows and then keep the runners all picked off, keeping only the original plants for the fruiting bed.

The other is to set the plants four feet apart in rows spaced 36" to 40" apart. These plants are allowed to make runners and in the first summer large furrows are

made between the rows, which leaves the plants on ridges. The strongest runners are selected and each joint is pressed into the ground, forming two rows on each ridge. The surplus runners are all pulled off and the furrows are filled with water often enough to keep the ridge wet. These plants will become established in a few weeks and will make fine fruiting rows for the coming spring. After these plants are set in and the rows are filled out, all additional runners should be pulled off as they come.

The first method is usually used in small plantings and commercial growers almost invariably use the latter method here. This method requires only 4000 plants to set an acre.

Strawberries are shallow rooted, and require regular irrigation and plenty of fertilizer.

In Southern California on sandy soil we would suggest: Clean off all the dead leaves in January and apply in the irrigation furrows, 10 to 15 lbs. of a good mixed fertilizer to each 100 foot of row. When the crop begins to set on, we would give them another such application. Then in May, when the first crop is nearly gone and they are starting to bloom for the second crop, the same amount again to size up the second crop of fruit.

In most parts of the United States this would be too much fertilizer, but in Southern California ordinary spring bearing strawberries which fruit over a 3 or 4 week period in the east bear 4 months here and must have plenty of water and fertilizer if they are to produce both quantity and large fruit over this long season.

After the crop is picked, keep surplus runners pulled and irrigate enough to keep the plants in thrifty condition until fall and then handle as for first crop.

**FERTILIZATION**—The suggestions on fertilizing Boysenberries applies equally to other varieties of bushberries.

**SPRAYING**—In California the one important and necessary spraying for all kinds of bush and vine berries is with lime-sulphur. Use ordinary commercial liquid lime-sulphur 1 gal. to 10 gals. water or 1 lb. dry powdered lime-sulphur to 6 gals. water. Spray very thoroughly on both sides of the row when the vines are dry.

**TIME OF SPRAYING IMPORTANT** — It should be done just when the **LEAF** buds are starting to open in spring. If the leaves are opened out more than three-quarters of

an inch this spray will burn them. This spraying is primarily for blister mite, which causes certain sections of the fruit to remain red and never ripen. However, it also goes a long way in controlling thrip, scale and even helps control red spider later in season. Pests which annoy the berry grower vary in different parts of the country, consequently spray practices vary. One thing sure, this lime-sulphur spray as recommended above will help anywhere, even though for special pests you should also have to use something else. In some districts regular use of Bordeaux is recommended for cane diseases. This material can be secured from any spray material dealer together with directions for mixing and applying for various troubles.

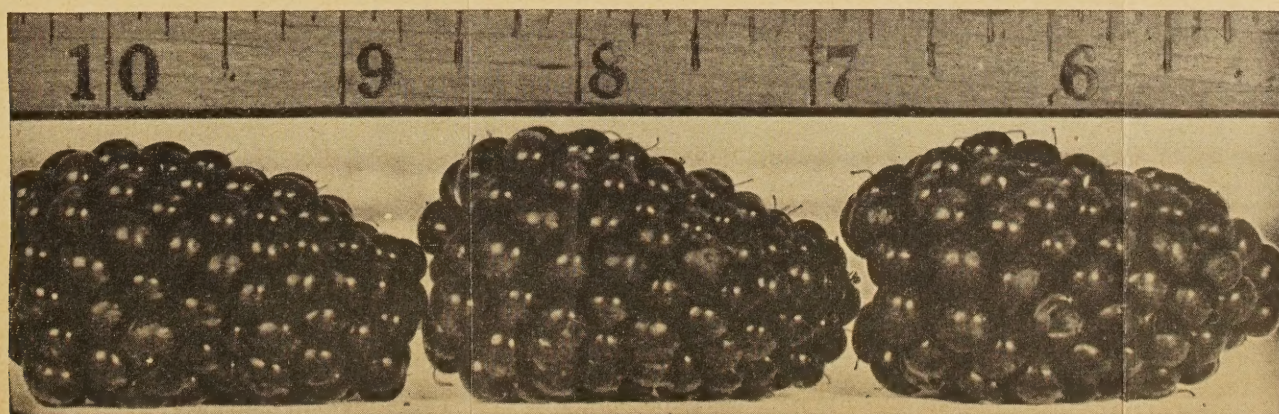
**ASPARAGUS**—Should be planted 12 or 15 inches apart in trenches 6 or 8 inches deep. The roots are spread out flat in bottom of trench, some going each way, and covered about 2 inches deep. The trench is then filled in as the plants grow. No asparagus should be cut the first summer, but the stalks should be allowed to grow up tall so the roots will be established. In the early winter when the tops turn yellow they are cut to the ground and the asparagus should be well manured.

The next spring you can use asparagus for 2 or 3 weeks and should then let the tops mature as before and the next spring you can cut for 4 to 6 weeks and then by the following year your asparagus should be well established and you can cut for about 12 weeks each summer, but always remember to quit cutting in time for the tops to grow up and revitalize the roots for another season. Use plenty of manure each fall. It pays to dust the tall tops with dry sulphur two or three times while growing up each summer to prevent a possible attack of rust.

**CHERRY RHUBARB**—Should be set 4 ft. apart and given plenty of manure or fertilizer after they have started to grow. No rhubarb should be picked until the following spring in cold sections and not until September in California the first year.

In picking rhubarb you should remember that it is not a fruit you are picking but the plant itself, so there must be time between pickings for the plants to recuperate. For instance, if you have five plants, it is much better for your plants and you will get much more crop in the long run, if you will pick one plant until it is all picked and then go to another and use it until it is all gone, and so on down the row, getting back to the first one in 8 or 10 weeks, than to pick a little from each plant each week.

## BOYSENBERRIES







150 Acres of Berries—Many Varieties. Fruit and Plants for Sale During the Seasons.

# KNOTT'S BERRY FARM

Buena Park, California